CALIFORNIA'S HEALTH

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HANSEN'S DISEASE (LEPROSY) IN CALIFORNIA

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*"California stands almost alone among the states in being geographically situated for receiving infection (of Hansen's disease) from two general sources. The proximity to Mexico, which has many cases, has resulted in a very considerable number of cases from that country. The State is the most convenient port of entry for Hawaii, Japan, and other Pacific islands as well as China, which has resulted in the importation of a smaller but considerable number of cases."—G. W. McCoy, M.D.**

I. DESCRIPTION OF HANSEN'S DISEASE

Hansen's Disease (leprosy) affects many tissues and organs of the body, but primarily the skin, upper respiratory tract, mucous membranes, eyes and peripheral nerves. It is a chronic disease, most frequently contracted in childhood.

Hansen's Disease is contagious, but the degree of contagiousness is not precisely known. It is presumed by some experts to be less than that of tuberculosis. It is contracted probably by direct skin contact from person to person, or possibly by upper respiratory tract secretions.

Dr. Herman H. Gray has been on loan to the California State Department of Public Health from the Communicable Disease Center of the U. S. Public Health Service since September, 1951. He was a member of the medical staff of the U. S. Public Health Service Hospital, Carville, Louisiana, July, 1948, to December, 1949. In 1950 the U. S. Public Health Service loaned him to the State of Florida to do a leprosy survey in Key West. He was sent to the Harvard School of Public Health for a year's study in 1950-51. Since coming to California Dr. Gray has done a follow-up survey of discharged leprosy patients and examined their contacts. He has also aided in the diagnosis and treatment of new cases. Dr. Gray left the department October 16th to work as a medical missionary for the Christian Reformed Church of which he is a member. He and Mrs. Gray, a public health nurse, will be stationed in Nigeria, British West Africa. There they will be among 1,200 leprosy patients in an agricultural type of colony and 2,000 outpatients who receive sulfone therapy in village clinics.

The disease is caused by an acid-fast bacillus, *Mycobacterium leprae*, discovered in 1874 by Gerhard A. Hansen, a Norwegian physician. Partly in honor of Dr. Hansen and partly to overcome the undue fear reaction of the public to the term leprosy, it has in recent years been called Hansen's Disease.

Hansen's Disease progresses slowly. The first symptoms usually consist of small skin spots in which the sensation of pain, temperature and touch is lost.

These early symptoms may not concern the patient for months or even several years. Depending on the resistance of the patient, the disease may take the mild tuberculoid form, formerly known as neural, or the severe lepromatous form, formerly known as nodular.

The mild cases may "burn out" in two to five years, even without treatment. However, destruction of peripheral nerves may result in permanent damage to the muscles and bones of the hands and feet. The lepromatous cases rarely subside without treatment.

Usually the disease produces more and more skin thickening, nerve damage, skin atrophy and skin ulcers, and eventually will shorten the patient's life. Patients do not die of Hansen's Disease itself but of kidney disease and other complications. The course of the disease is serious and prolonged, resulting in disabilities to the patient such as hand and foot weak-

* "Leprosy in California—Dangers of Infection" Public Health Reports, Vol. 63, No. 22, May 28, 1948, pp. 705-712.

nesses, impairment of vision, general feeling of weakness, fever bouts, changes in skin appearance, etc. The seriousness of the disease and the possibility of spread to close associates of the patient make Hansen's Disease of public health importance. This is true in spite of the fact that the number of cases in the United States, estimated at 1500, is small.

Hansen's Disease is treated with *Sulfone* drugs (not sulfa). Several commercial preparations are available. The drug is given in tablet form after meals. Frequent complications of treatment are anemia and erythema, and in rare instances, drug dermatitis.

II. HANSEN'S DISEASE IN CALIFORNIA

From 1920 to the present time California has recorded 383 cases of Hansen's Disease.

Table I
Hansen's Disease Cases in California, 1920-June 30, 1953 by Sex and 10-year Periods

Time Period	Males	Females	Total	No. of Cases Year
1920-29	159	56	215	21.5
1930-39	111	34	145	14.5
1940-49	83	34	117	11.7
1950-June 30, 1953	30	17	47	13.4
Totals	383	141	524	13.7

The cases were living in many different counties of California at the time of diagnosis. This is shown by Table II. There is no unusual concentration of cases. In general, the distribution of cases is proportionate to the population. Morbidity rates were not worked out because the total number of cases from any one county is so small.

Table II
Hansen's Disease Cases in California, 1920-June 30, 1953 by Place of Residence at Time of Diagnosis

County	Cases 1920-1953	County population 1940	Percent of Cal. leprosy cases, 1920-1953	Percent of Cal. population, 1940
Alameda	27	513,000	5.2	7.4
Contra Costa	15	100,000	2.9	1.4
Fresno	20	179,000	3.8	2.6
Los Angeles	167	2,786,000	31.8	40.5
Monterey	12	73,000	2.3	1.1
Sacramento	28	170,000	5.3	2.5
San Bernardino	17	161,000	3.2	2.3
San Diego	12	289,000	2.3	4.2
San Francisco	85	635,000	16.2	9.1
San Joaquin	22	134,000	4.2	1.9
Santa Barbara	13	71,000	2.5	1.0
Ventura	14	70,000	2.7	1.0
All other counties	92	1,726,000	17.5	25.0
Totals	524	6,907,000	100.0	100.0

The percentage distribution of total population of the different counties compares fairly closely with the percentage distribution of Hansen's Disease cases resident in those counties. This can be contrasted with figures from the State of Florida, where there is an endemic focus of Hansen's Disease in the city of Key West, Monroe County. From 1920-49, 134 cases were diagnosed in Florida, 63 (47 percent) of them, were in Key West, although Monroe County had only 1 percent of the state's population in 1940.

Table III shows the place of birth of the patients:

Table III
Hansen's Disease Cases in California, 1920-June 30, 1953 Cases by Country of Birth and by Sex

Birth place	Number of patients Males	Females	Total	Percent of patients
U. S. total	72	26	98	18.7
(Cal.)	(28)	(8)	(36)	(6.9)
Mexico	174	96	270	51.5
Philippines	65	5	70	13.3
China	35	4	39	7.5
All other countries	37	10	47	9.0
Totals	383	141	524	100.0

These figures demonstrate the fact that 426 (81 percent) of the 524 patients are foreign born. Among the 98 U. S.-born cases are many who traveled to Mexico and other foreign endemic areas and probably contracted the disease there. Only 27 (5 percent) of the patients are presumed to have contracted the disease in California, 10 of them giving a history of having a parent with the disease. These 27 cases were selected as California-contracted because they had lived all their lives in California except for trips to nonendemic areas in the United States. In table III (above) the preponderance of men over women is striking. While Hansen's Disease is more common in men (2:1) in most parts of the world, the figures in California are further distorted by the fact that there is an excess of men over women among foreign immigrants, especially among the Chinese and Filipinos. This is reflected in the sex ratio of the Hansen's Disease cases.

The age at which the onset of disease occurred was relatively late in life in these cases, when compared with ones in endemic areas, such as Hawaii. The median age at onset of the California patients was 32 years, while in Hawaii it is in the middle teens. Since this is largely a group of foreign immigrants, there is a natural selection of patients with late onset because those with onset early in life would have been excluded from immigrating. The foreign-born patients lived in California an average of four to five years before the first clinical signs of Hansen's disease appeared. This figure is probably inaccurate, for the first signs are usually very slight (one or two small anesthetic spots on the skin) and are easily overlooked by the patient, who may consider exacerbations occurring several years later to be his first signs.

In those cases in whom the onset date is known (427) an average of 1.3 years elapsed between onset and diagnosis. Many patients were seen by several doctors before the correct diagnosis was made. This

delay in diagnosis reflects the rarity of this disease in the United States. Of the 524 cases diagnosed in California, 297 (57 percent) were admitted to the U. S. Public Health Service Hospital at Carville, Louisiana, for treatment, 110 (21 percent) were deported to their native country (mostly Mexico).

The patients currently undergoing treatment at the U. S. Public Health Service Hospital, Carville, Louisiana, number about 400. Since 1921, when this hospital was taken over by the Federal Government from the State of Louisiana, slightly over 2,000 patients have been admitted there. The largest numbers of cases have been admitted from Louisiana, Texas and California.

At present, 81 California patients are at Carville, and 54 are in California. Some of the latter are patients discharged from Carville, and several are mild tuberculoid cases who are being treated at home, without ever having gone to Carville. All such cases are under adequate public health control.

III. CONTROL PROGRAM IN CALIFORNIA

In the last two years, data relating to California cases have been compiled by abstracting epidemiologic information from the Hansen's Disease file in the State Department of Public Health, by interviewing their close relatives, and by interviewing and examining all newly diagnosed cases in the State.

Consultive service is given to local health departments regarding the care and disposition of cases.

In general the recommendations now being made to the local health departments in dealing with patients and their contacts are as follows:

(1) All patients should have a history taken, receive a physical examination and laboratory work-up (routine blood, urine, serology and chest X-ray examinations plus skin scrapings for acid-fast bacilli and skin biopsy). The history should particularly include a complete list of places of residence and travel since birth, and dates of these to elicit residence in endemic areas. Also, the patient should be asked about contact with Hansen's Disease cases before onset of his own illness. Symptoms with dates of his illness should be asked next. Finally a family roster should be obtained of persons living with the patient since onset of his disease, with their names, relationships to the patient, dates of birth, and dates of entering and leaving the household.

(2) If the diagnosis has been established by the history, physical examination and laboratory work, the type of disease should be determined.

Tuberculoid cases are those who have anesthetic, elevated skin plaques with clear-cut edges, skin scrapings which usually show no acid-fast bacilli and on skin biopsy show epithelioid and giant cells in the microscopic examinations of the sections. There are often thickened peripheral nerves and hand and foot muscle atrophies.

Lepromatous cases have ill-defined skin lesions, with diffuse infiltration, macules with slightly pigmented edges and de-pigmented centers or nodules. There are often thickened peripheral nerves and hand and foot muscle atrophies. The skin scrapings show numerous acid-fast bacilli, and skin biopsy reveals macrophages in the dermis distended to varying degrees by acid-fast bacilli (which are only demonstrated by acid-fast stain).

A third, indeterminate type of the disease is rare. Skin lesions are not elevated, either hypo- or hyperpigmented, and clearly defined. Acid-fast bacilli are rare. Biopsy shows only macrophages.

(3) Tuberculoid cases can usually be cared for at home with sulfone treatment. However, some patients with severe peripheral nerve damage and consequent claw hands, drop foot, etc., may benefit from special reconstructive surgery available at the Carville Hospital. Tuberculoid patients treated at home need not be kept under any restrictions except that they should handle children as little as possible, though it is not necessary to separate the children from a mother who has this mild form of Hansen's Disease. Tuberculoid cases, after the disease becomes arrested, should be re-examined annually to detect possible relapse of the disease. Whether sulfone treatment in a small dose (e.g. one-third gram Diasone daily) should be continued in arrested tuberculoid cases has not been clearly established but is advisable.

(4) Lepromatous cases should usually be admitted to the U. S. Public Health Service Hospital, Carville, Louisiana, for treatment. Under unusual circumstances early lepromatous cases can be treated at home but must then comply with modified isolation procedures.

(a) There should be no children under 18 in the household, and children should not visit.
(b) Only a minimum number of adults are permitted to remain in the household (no borders, and no visitors should eat or sleep in the house).
(c) The patient should not shop or work. The no-work restriction can be relaxed insofar as the patient can engage in an occupation where his contact with other people is minimal.
(d) The patient must be under continuous sulfone treatment.
(e) Restrictions can be lifted when 12 monthly skin scrapings for acid-fast bacilli have been negative.

Occasionally, lepromatous patients who have been at the Carville Hospital are discharged greatly improved but still having bacilli on skin scrapings. Such persons can be dealt with in the same manner as out-

lined above. When the disease has become arrested, sulfone treatment of the patient should be continued in small doses (one-third gram Diasone daily is usual) for the rest of his life.

(5) Contacts of both lepromatous and tuberculoid cases should be examined through an agency of the local health department annually for 10 years after last contact with an active case. A contact is defined as a person living in the household of a case for at least one month while the disease was active. Figures are not available as to the number of such contacts who in later years develop Hansen's Disease, but recent data obtained in Texas indicate that 2 to 5 percent of such contacts do develop the disease. Non-household contacts are exposed to an even smaller risk of contracting Hansen's Disease, and therefore it is not worthwhile to do follow-up examinations on them.

Examination of contacts consists of inspection of the entire skin for macules, diffuse infiltrations, nodules, ulcers. Any skin lesions found should be tested for ansthesia to pain, temperature and touch. If anesthesia (or hypersethesia) is demonstrated, skin scrapings are taken. The technique is as follows: Cleanse the skin with alcohol. Hold margin of lesion firmly between two fingers. Make one-half cm. incision, 5-10 mm. deep with single-edged razor blade. Quickly turn blade sideways and scrape inside of incision once or twice. The heap of cell debris and tissue on the razor blade is placed on a glass slide and acid-fast stain applied. Skin biopsy is also recommended.

For clinical examination and recommendations regarding treatment of new patients diagnosed in California, the State Department of Public Health is now in the process of obtaining the services of several clinicians as consultants. Each consultant will see patients at the request of the local health officer in his area to confirm diagnoses and help determine whether medical treatment at Carville or treatment at home with modified isolation should be instituted.

Local health officers will be informed when the list of clinical consultants is completed.

Patients with Hansen's Disease require prolonged treatment, and the isolation measures employed (including hospitalization at Carville), particularly with lepromatous cases, keeps them from earning a living for several years. Public welfare support for their dependent family members is therefore an essential part of the control program and should be arranged by the local health department with the county welfare department.

Education of the public is an important phase of a public health program in Hansen's Disease. Public information and other educational methods should be designed to help overcome the undue fear people have of these patients. Finally, the education of physicians and local health officers and their staffs is also important, so that the occasional patient seen will be properly diagnosed, his disease treated, and the suitable public health measures undertaken. One of the available means to this end is a set of Kodachrome 35 mm. slides with descriptive text which the Bureau of Health Education will make available to local health departments for showing to their staffs or to local medical societies.

San Bernardino Departments Sponsor Radiological Health Course

The San Bernardino City Health Department in conjunction with the San Bernardino County Health Department and the State of California, State Department of Public Health, will give a course on Radiological Health and Instrumentation, Tuesday, November 17, 1953, through Thursday, November 19, 1953, at the San Bernardino County Health Department.

Primary emphasis will be placed on the public health aspects of radiation. The course is planned for sanitarians, occupational health personnel, members of the medical and dental professions, and their technicians, and for those individuals in industry who work with, or who may at some later date be exposed to radioactive materials, or X-rays. Laboratory personnel, nurses, educators and teachers are also invited to attend this course.

The course will consist of an introduction to atomic structure, radiation and its effects, instrumentation, shielding and protective measures, plus lectures on fission, fusion, isotopes and the medical aspects of radiation. The lectures will be supplemented by slides, films, and other visual aids.

Personal Notes

Virginia Breaks resigned September 30th from her position as Chief of the Reports Section, Bureau of Records and Statistics. Miss Breaks left the department after eight years' service to take a two-year assignment as public health records analyst and statistician with the Office of the High Commissioner of the Trust Territory of the Pacific Islands, under administration by the Department of the Interior. Her headquarters will be at Truk, Caroline Islands, Micronesia.

Thomas J. Beare, D.D.S., joined the staff of the State Department of Public Health on September 16th as Public Health Dentist, Division of Dental Health. Dr. Beare was formerly in private practice in San Bruno.

California's Rapid Growth Continues, Finance Study Shows

A partial answer to the perplexing question of what has happened to the population of the State since the last federal census is given in a recent publication released by the State Department of Finance. This report, titled "Estimated Population of California, 1950-1953 with Population Projections to 1955," was prepared by Carl M. Frisen, Ph.D. It is one of a series of such population studies made by the Department of Finance that are of vital interest to state and local agencies that have the responsibility of providing services to the people of California, for one of the first considerations is obviously the number of people to be served.

This report deals with the changes that have occurred in the population of California since the census of April, 1950. The total resident population of California was estimated to be 12,075,000 on July 1, 1953. This represents a gain since April 1, 1950, of 1,489,000 —the equivalent, Doctor Frisen points out, of adding every month, on the average, a city the size of Palo Alto, Pomona, or Vallejo. The annual rate of increase between 1950 and 1953 was 4.1 percent, which is almost equal to the 1940-1950 rate of growth of 4.4 percent per year.

Continuing past trends, migration remains the major source of population gain but natural increase (excess of births over deaths) has assumed new prominence. In the 20 years from 1920 to 1940, the State recorded approximately 1,660,000 births and 1,285,000 deaths, resulting in a net total of about 375,000 added to the population through natural increase. In the past three and one-quarter years there have been about 868,000 births and 339,000 deaths, providing an excess of almost 530,000.

Seven out of every 10 persons added to the State's population since 1950 are living in San Francisco, Los Angeles or San Diego areas. Industrial growth and expanded military facilities appear to be the major factors determining the distribution of the 1950-1953 population gains.

Estimates of the total resident population of counties and statistical areas from July 1, 1950, to July 1, 1953, together with analyses of the reasons for changes, are included in this release. (A table showing the estimated total resident population of California counties as of July 1, 1953, was reprinted from this report in the August 15th issue of *California's Health*.)

This report also includes projections to 1955 of the total resident population of the State and the estimated civilian population by certain age groups. And of particular interest to agencies planning schools is the projected enrollment in California public schools in 1953-1955 and 1960.

Copies of this publication may be obtained from the State of California, Department of Finance, Division of Budgets and Accounts, State Capitol Building, Sacramento, California.

New Vaccination Certificates Issued for International Travel

A new "International Certificates of Vaccination" form has been issued by the Public Health Service and has been in use since July 14th. This new official record of a traveler's compliance with immunization requirements supersedes the old "International Certificate of Inoculation and Vaccination." The old form, however, is valid until the expiration date of the recorded vaccinations. Like the old form, the new one provides space for certificates of smallpox, yellow fever, and cholera vaccinations, as well as space for recording other immunizations such as for typhus, typhoid-paratyphoid, plague, and tetanus, which are not at present required. The new form is issued to the traveler at the time of application for a passport at the offices of the clerks of the court and passport agencies of the Department of State located in Boston, Chicago, New Orleans, New York and San Francisco. This gives the traveler more time for completion of his immunizations that he had with the old form which he received at the time of passport issuance. Persons going into countries that do not require a passport may obtain the form from local or state health departments or from facilities of the Public Health Service.

Health departments, travel agencies and others who desire a supply of the certificates may obtain them, as in the past, from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., at a cost of 5 cents per copy or $2.50 per 100.

The new vaccination certificate form complies with the international sanitary regulations which went into effect October, 1952, is recognized by all the countries governed by these regulations, and is approved by the World Health Organization. The text of the certificate is in English and French but data may be recorded in any language.

All of the changes from the old form add to the convenience of travelers. The principal ones are:

The cholera certificate becomes valid beginning six days after the first injection, or immediately in the case of revaccination. The old form required that the series be completed. (The type of vaccine being used in this Country provides maximum protection only after the second injection, so international travelers will be advised to complete the series.)

The smallpox certificate becomes valid immediately on revaccination, whereas previously a 14-day wait was required. Primary vaccinations must still be inspected and the results recorded.

Smallpox and cholera vaccination certificates will be certified by local health officers as in the past, but the signature of the certifying officer is no longer necessary, and signature alone is not acceptable. Health officers must use their official stamps; if they do not have one they should prepare a special stamp for the purpose of certifying these documents.

The period of validity for the yellow fever vaccination certificate has been extended from four to six years. As before, yellow fever vaccination certificates issued in the United States are valid in international travel only when the inoculation is obtained from a vaccination center designated by the Public Health Service.

IMMUNIZATION PROCEDURES IN EFFECT IN THE PUBLIC HEALTH SERVICE

The following persons may be immunized without cost at Public Health Service stations:

1. Persons who by law are beneficiaries of the Public Health Service. This includes American seamen, members of the U. S. Coast Guard and their dependents, and certain other classes of beneficiaries entitled by law to the benefits of the Public Health Service. It does not include veterans, per se, i.e, the fact that an applicant is a veteran does not in itself make him eligible for this service.

2. United States Government officers, employees, and their dependents leaving for foreign areas when traveling under official orders.

3. Dependents of Army, Air Force, Navy and Marine Corps personnel traveling under official orders to foreign countries.

4. Any person requiring immunization for yellow fever. (Yellow fever immunizations are obtainable only at Public Health Service stations.)

Persons entitled to immunization (other than yellow fever) by this service may be furnished any of the usual immunizations. Members of the general public who receive yellow fever inoculations here are not entitled to other immunizations by this service. Such immunizations (e. g. typhoid, smallpox) should be obtained elsewhere. Persons not eligible as above may obtain immunization against diseases other than yellow fever from:

1. State or local health departments, or

2. A private physician. Such immunizations should be certified to by the *local* health authority that has jurisdiction over the area *where the private physician practices.*

Polio Peak Appears Past for 1953; Percent Paralytic Drops

Since the beginning of August California has had more than 150 cases of poliomyelitis a week, but the fact that the curve has not swung sharply upward in the past few weeks has been viewed as an indication that the peak for this season may have been reached in September.

While the total number of reported cases has been higher in California this year than in the previous two years, the number of cases reported with muscular weakness or paralysis has remained about the same. The following table shows that about 50 percent of the cases this year have been of the paralytic type, as compared with 60 percent in 1952, 68 percent in 1951, and 71 percent in the 1948 epidemic year for California.

April-October 10th (14-40th week)

	1953		*1952*		*1951*		*1948*	
Total	2,428	50%	1,915	60%	1,772	68%	3,609	71%
Paralytic	1,209		1,145		1,210		2,562	

September (35-39 weeks)

	1953		*1952*		*1951*		*1948*	
Total	853	52%	880	62%	724	65%	1,426	71%
Paralytic	445		544		474		1,010	

All but seven counties in California have reported cases this year. The seven are Alpine, Calaveras, Lassen, Modoc, Mono, San Benito and Sierra Counties —mostly sparsely populated, mountainous areas.

Total Reported Cases (April Through October 10th)

2,428

1,171	Los Angeles and Orange Counties—Area IX.
262	Imperial and San Diego—Area X.
353	Nine San Francisco Bay Area Counties—Area III.
178	Sacramento Valley Counties—Area IV.
152	San Joaquin Valley Counties—Area VI.
	The rest of the cases were scattered.

There have been 55 polio deaths this year. Based on the 1,209 paralytic cases, this represents a fatality rate of 4.5 percent, which is about the same as in previous years.

Nationally for the period April through the week of October 3d there were 26,375 cases this year, as compared with 41,013 for the same period in 1952. Because the early high estimates of cases nationally did not materialize, plus the fact that there has been an increase in production of gamma globulin, additional polio immune globulin has been made available. With this additional supply, the criteria for eligibility among household contacts to diagnosed cases of polio have been broadened.

Suggested plans for community-wide use of gamma globulin in high incidence areas were developed, but have not been needed because to date no county in California has become eligible in terms of the national criteria.

Public Health Positions

Madera County

Assistant Health Officer. Men and women who have a California license to practice medicine are invited to apply to Lee A. Stone, M.D., County Health Officer, Madera, California. Starting salary: $7,200.

San Diego County

Public Health Nursing Education Consultant. Salary range: $378-$470. Master's degree and supervisory experience required.

Supervising Public Health Nurse. Salary range: $360-$438.

Public Health Nurse. Salary range: $311-$378. Current California P. H. N. registration required.

Sanitarians. Salary range: $327-$378. Applicants must be California registered.

Applicants for any of the above positions should write to J. B. Askew, M.D., Director of Public Health, Civic Center, San Diego.

San Luis Obispo County

Audiometrist. Salary: up to $4,500, depending on qualifications and credential. One person is wanted to do hearing and vision testing and speech correction work in the schools of the county. If no one person is available with the double qualifications two persons will be hired. Applicants should write to Alvin E. Rhodes, County Superintendent of Schools, Room 102, Courthouse, San Luis Obispo.

Tulare County

Medical Officer. Salary range: $549-$686. It may be possible to start suitable applicant at $614. License to practice medicine in California required. For details regarding position applicants should write to Erwin P. Brauner, M.D., Health Officer, Tulare County, P. O. Box 110, Visalia.

Marin County Health Department to Hold Open House

The new building for the Marin County Health Department has been completed and the staff has moved to their new quarters at 920 Grand Avenue, (corner of Fourth and Grand), San Rafael. Dr. Clarice Haylett, health officer, wishes to invite through this item all friends in public health to an "open house" to be held on Friday, November 6th.

The new building is the latest in the series of modern structures that are being built throughout the State to provide more adequate housing for local health departments. The Marin County Health Center is one of those built under the Hospital Survey and Construction Program with the assistance of Hill-Burton funds.

State Has Low Encephalitis Year; 15 Scattered Cases Confirmed

I. HUMAN CASES REPORTED, JUNE-SEPTEMBER, 1953

Only 15 laboratory confirmed cases of the mosquito-borne types of encephalitis (Western and St. Louis viruses) were recorded for California during the summer months June through September, as compared with 401 laboratory confirmed cases for the same period in the epidemic year 1952.

	Type		
Month reported	*Western Equine*	*St. Louis*	*Cause unknown*
June	--	--	9
July	--	--	11
August	4	--	13
September	5	6	19
TOTALS, 1953	9	6	52
Totals, June-Sept., 1952	369	32	251
Totals, June-Sept., 1951	22	30	40

This year the onset of the first case of Western Equine infection was July 7th in Riverside County, while in 1952 the onset of the first case (W. E.) was June 5th in Kern County.

The geographic distribution of the 15 laboratory confirmed cases shows them to be scattered from Tehama County in the north to Imperial County in the south.

	Type	
County	*Western Equine*	*St. Louis*
Sacramento Valley Counties		
Tehama	2	-
Colusa	1	-
Sutter	2	-
Sacramento	1	-
Yolo	1	-
San Joaquin Valley Counties		
San Joaquin	-	1
Stanislaus	-	1
Tulare	-	1
Kern	-	1
Southern California Counties		
Riverside	1	1
Imperial	1	1
Totals	9	6

II. VIRUS ISOLATIONS FROM MOSQUITO COLLECTION STUDY AREAS IN FRESNO AND KERN COUNTIES

Since the second week of June, this year, mosquito collections from Kern and Fresno County areas have been submitted to the State Virus Laboratory through the cooperation of the State Bureau of Vector Control and the Hooper Foundation Encephalitis Laboratory. This has been done in an effort to determine the value of virus isolations from mosquitoes as an index of the density of infection or as an index of the high prevalence of the virus which might later be reflected in increased human cases in the areas. Under this plan 25 pools of 50 mosquitoes each have been tested every week. The results of this current testing of mosquito collections gives some promise of supplying an index of virus prevalence, but further observations over a period of several years will be es-

sential to determine the usefulness of this type of measurement.

Out of 349 mosquito pools tested, there have been 45 virus isolations—17 St. Louis and 28 Western Equine; Fresno County 2 St. Louis and 12 Western Equine, and Kern County 16 W. E. and 15 St. Louis. There were no isolations in the pools collected the last three weeks in June but one St. Louis and one Western Equine were found in collections in Kern County the first week in July. This fits with other data available which indicate a marked reduction in recognized cases of Western Equine and St. Louis encephalitis during the 1953 season.

III. ENCEPHALITIS CLINICAL FOLLOW-UP STUDY

The preliminary planning and the pilot-study of the neurological after-effects shown by patients who had encephalitis in the summer of 1952 have been completed. In August a grant for a five-year study was approved by the National Institutes of Health and made to Stanford University Medical School. Members of the neuro-psychiatric faculty are serving as clinicians and consultants, with Dr. Knox Finley of Stanford as chief investigator.

The State Department of Public Health will continue to be an active participant. The administrative office for the study is located in the Bureau of Acute Communicable Diseases.

The competent manner in which the local health units have handled the clinic sessions during the pilot phase and their success in securing the participation of the patients augurs well for the continuation of the study and for the accumulation of much needed knowledge about the neurological sequelae of this disease. The same plan for periodic examination of the patients will be continued during the five-year study.

So far clinics have been held in 12 counties, but the patients are scattered over approximately 30 counties and, as patients move about, even more counties may be involved. The cooperation of additional health units may be requested when sufficient numbers of patients are found in a given locality to justify a clinic session.

The odds against accidental death and injury have improved steadily since the formation of the safety movement in 1913. If the 1913 accident death rate had prevailed through the next 40 years, the toll of accident dead would have been swelled by a half million more victims.

Review of Reported Communicable Diseases Morbidity—September, 1953

Diseases With Incidence Exceeding Five-year Median

Diseases	*Sept., 1953*	*Sept., 1952*	*Sept., 1951*	*5-year median*
Amebiasis	51	43	29	29
Chickenpox	390	302	397	327
German measles	223	141	110	116
Hepatitis, infectious	165	108	27	22
Influenza	33	20	17	17
Malaria	17	28	3	4
Measles	534	265	258	269
Meningitis (meningococcal)	28	22	14	14
Mumps	1,040	854	435	607
Poliomyelitis	853	730	581	581
Rabies, animal	18	7	2	7
Salmonella infections	74	28	75	34
Shigella infections	144	86	46	46
Tetanus	7	3	6	6

Diseases Below the Five-year Median

Diseases	*Sept., 1953*	*Sept., 1952*	*Sept., 1951*	*5-year median*
Brucellosis	7	12	10	12
Diphtheria	5	4	11	11
Food poisoning	43	73	48	48
Pertussis	121	410	250	362
Typhoid fever	13	17	9	16

Venereal Diseases

Diseases	*Sept., 1953*	*Sept., 1952*	*Sept., 1951*	*5-year median*
Syphilis	605	623	589	725
Gonococcal infections	1,526	1,238	1,327	1,468
Chancroid	14	13	28	[1]
Lymphogranuloma venereum	9	2	5	[1]
Granuloma inguinale	1	1	4	[1]

[1] Median not calculated.

A total of 3,074 bite-wing dental X-rays of children 3 to 13 were taken during the 1953 State Fair at the dental health education exhibit cosponsored by the State Dental Association and the State Department of Public Health.

Special Census Releases

Special censuses of California cities taken since January 1, 1953. Series P-28. (Partial list.)

Alameda County: Pleasanton (545); *Los Angeles County:* Burbank (554), Hawthorne (541), Hermosa Beach (549), Redondo Beach (547); *Madera County:* Madera (540); *Orange County:* Orange (543); *Santa Clara County:* Sunnyvale (550); *Sonoma County:* Sonoma (542).

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